

REMARKS

The Official Action of April 5, 2006, and the prior art cited and relied upon therein have been carefully studied. The claims in the application remain claims 1, 2 and 5-11, and these claims define patentable subject matter warranting their allowance. Favorable reconsideration and such allowance are respectfully urged.

Claims 1, 2 and 5-11 remain in the application for consideration.

In response to the Examiner's objection to and rejection of claim 1 under 35 U.S.C. §112, second paragraph, Applicant has amended claim 1 to eliminate each of the problems identified by the Examiner. Applicant respectfully submits that this objection and rejection have now been overcome.

The Examiner has further rejected claims 1, 2 and 5-11 under 35 U.S.C. §102(b) as being anticipated by JP'907. Applicant respectfully traverses this rejection as applied to the claims as amended.

1. Modern motors including servo-motors have advanced to deal with very high speed revolution. Modern servo-motors now operate to respond to high acceleration of a

slider in reciprocation. However, in these prior art control systems, the reciprocating operation of the slider or table are controlled depending on the revolving speed of servo-motors. Accordingly, these systems do not take full advantage of the reciprocating operation of the slider or table.

2. In prior art systems, the workpiece revolves on a work spindle which provides its highest circumferential speed on the workpiece at the circular fringe outermost in radius and slows down as the circular area shifts radially inwards toward the center of the work spindle.

Accordingly, when the reciprocating operation of the slider is controlled depending on the revolving speed of the work spindle as in JP'907, the revolving speed of the work spindle is normally set in conformity with its highest acceleration in reciprocation of the slider. Correspondingly, the slider in reciprocation has to be controlled to work with such acceleration to cut only a circular fringe larger in radius of the workpiece while gradually slowing down its acceleration as it shifts radially inwards toward the center of the workpiece. With control of the prior art processors depending on the revolving speed of the work spindle pegged only to its highest acceleration in reciprocation of the slider, the slider has to slow down its acceleration in

reciprocation when moving radially inward toward the center of the workpiece. Accordingly, the slider in such systems do not make the most of their ability throughout the processing phase across the diametral area of the workpiece, despite using modern servo-motors refined to meet with increasingly high rpm. As a result, prior art processors lack processing efficiency.

JP'907 is a commonly assigned patent application indicated in "background of the invention" of Applicant's disclosure. Moreover, paragraphs [0006] [0022] and Abstract of '907 have no clear relation to the concept and motivation of the claimed invention.

3. In comparison to JP'907, the claimed invention is intended to provide a processor wherein the claimed slider is actuated in reciprocation at its highest acceleration at all times. The slider continues to work in reciprocation with the acceleration set to its highest acceleration to provide for the full capacity of reciprocating operation of the slider while the work spindle is controlled to vary its revolving speed in conformity with the highest slider acceleration as it moves across the workpiece.

Accordingly, the revolving speed of the work spindle is set to cut a circular fringe distant from the center of the

workpiece by the slider or cutter reciprocating at its highest acceleration. As the cutting moves radially inwards across the surface of the workpiece, the work spindle is controlled to increase its revolving speed so as to conform to the highest acceleration of the slider. Thus, with the claimed processor, the spindle varies its rpm as the slider reciprocates at its highest acceleration when moving across the workpiece, so that the slider can make the most of its performance across the surface of the workpiece thereby raising the processing efficiency. Clearly, there is no teaching of this process in JP'907.

4. Newly amended claim 1 is supported by the descriptions in the originally filed specification open to public inspection under U.S. 2005/0005744 A1, especially at page 2, paragraph [0011], lines 8-29. Further attention is called for the EP counterpart matured into EP 1 495 839 B1.

Acknowledgement by the PTO of the receipt of applicants' papers filed under Section 119 is noted.

The prior art documents made of record and not relied upon have been noted along with the implication that such documents are deemed by the PTO to be insufficiently pertinent to warrant their applications against any of applicant's claims.

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Favorable reconsideration and allowance are
earnestly solicited.

Respectfully submitted,

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